

PTO/SB/21 (09-04)

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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/725,908
Filing Date	December 1, 2003
First Named Inventor	David W. Caldwell
Art Unit	2836
Examiner Name	Robert L. Deberadinis
Attorney Docket Number	37041-10990

### ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached  <input checked="" type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s)  <input checked="" type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input checked="" type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund  <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Postcard
Remarks		

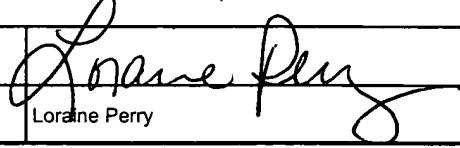
### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Jenner & Block LLP, One IBM Plaza, Chicago, IL 60611		
Signature			
Printed name	Mark P. Vrla		
Date	January 27, 2005	Reg. No.	43,973

### CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature



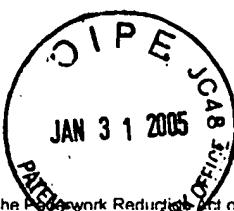
Typed or printed name

Loraine Perry

Date January 27, 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).  
Effective on 12/08/2004.

# FEE TRANSMITTAL For FY 2005

Applicant claims small entity status. See 37 CFR 1.27

**TOTAL AMOUNT OF PAYMENT** (\$ 1,020.00)

## Complete if Known

Application Number	10/725,908
Filing Date	December 1, 2003
First Named Inventor	David W. Caldwell
Examiner Name	Robert L. Deberadinis
Art Unit	2836
Attorney Docket No.	37041-10990

## METHOD OF PAYMENT (check all that apply)

Check  Credit Card  Money Order  None  Other (please identify): \_\_\_\_\_

Deposit Account Deposit Account Number: 10-0460 Deposit Account Name: Jenner & Block

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

Charge fee(s) indicated below  Charge fee(s) indicated below, except for the filing fee  
 Charge any additional fee(s) or underpayments of fee(s)  Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

## FEE CALCULATION

### 1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity	Fee (\$)	Small Entity	Fee (\$)	Small Entity	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

### 2. EXCESS CLAIM FEES

#### Fee Description

Each claim over 20 (including Reissues)

Fee (\$)	Small Entity
Fee (\$)	Fee (\$)
50	25
200	100
360	180

Each independent claim over 3 (including Reissues)

Multiple dependent claims

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims
16 - 20 or HP = 0	x 50.00	= 0.00		Fee (\$)

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Fee (\$)	Fee Paid (\$)
1 - 3 or HP = 0	x 200.00	= 0.00			

HP = highest number of independent claims paid for, if greater than 3.

### 3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =		/ 50 = (round up to a whole number) x		=

### 4. OTHER FEE(S)

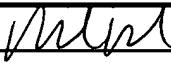
Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Extension of Time (3 months)

Fees Paid (\$)

1020.00

## SUBMITTED BY

Signature		Registration No. 43,973 (Attorney/Agent)	Telephone (312) 222-9350
Name (Print/Type)	Mark P. Vrba		Date January 27, 2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## Text of the First Office Action

Application No. 00803985.2

As disclosed in the description, the application relates to a touch switch with integral control circuit. After examination, the examiner's comments are as following:

### 1. The independent Claim 1 does not possess novelty.

Reference 1 (US 5012124A) discloses a control panel and in particular discloses the following technical features (See the description of Reference 1, Column 1, Line 50 to Column 3, Line 31): a control panel containing several touch sensitive sensors (corresponding to the touch pad in Claim 1); a control circuit in close proximity to the control panel, including OSC1, AM1, ADC1 and MCI; the control circuit being electrically coupled to the control panel; the control panel being configured to receive a field generation signal; the field generation signal causes an electric field to be generated about the control panel; the control circuit being responsive to a stimulus affecting the electric field; the control circuit being configured to selectively generate a control signal in response to the stimulus affecting said electric field; the control circuit having an output node FI-FN for transmitting the control signal on an output line to a remote device. Reference 1 does not point out that the control circuit having an input node for receiving an input signal from a remote signal source; however, it is the general knowledge for those of ordinary skill in the art that there must be an input node on said control circuit for receiving an input signal (power supply signal), otherwise the control circuit does not work. It is thus evident that Reference 1 discloses all the technical features of Claim 1; furthermore, Reference 1 and Claim 1 relate to the same technical field and adopt the same technical solutions to solve the same technical problem and produce the same technical effects. Therefore, Claim 1 does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and does not possess novelty.

### 2. The dependent Claim 2 does not possess novelty.

Reference 1 discloses the following technical features (See the description of Reference 1, Column 1, Lines 50-62): a control panel containing several touch sensitive sensors; sensor S1 includes a metallic plate TP1 (corresponding to the electrode in the claim). Therefore, when the referred claim does not involve novelty, the dependent Claim 2 does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and also does not possess novelty.

### 3. The dependent Claim 3 does not possess novelty.

Reference 1 discloses the following technical features (See Reference 1; Fig. 1): a control panel containing several touch sensitive sensors; sensor S1 includes a metallic plate TP1 (corresponding to the first electrode in the claim); sensor S2 includes a metallic plate TP2 (corresponding to the second electrode in the claim). Therefore, when the referred claim does not involve novelty, the dependent Claim 3

does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and also does not possess novelty.

4. The dependent Claim 5 does not possess novelty.

Reference 1 discloses the following technical features (See Reference 1; Fig. 1): comprising a first resistor R1 electrically coupled between the control circuit and TP1 and a second resistor R2 electrically coupled between the control circuit and the second electrode. Therefore, when the referred claim does not involve novelty, the dependent Claim 5 does not possess novelty prescribed by Article 22, paragraph two of the Chinese Patent Law.

5. The dependent Claim 6 is not supported by the description.

The additional technical features of the dependent Claim 6 are not disclosed by or directly inferred from the description and thus not supported by the description, which does not comply with the provisions of Article 26, paragraph four of the Chinese Patent Law.

6. The dependent Claim 7 does not possess novelty.

Reference 1 discloses the following technical features (See the description of Reference 1, Column 2, Lines 62-65): the control circuit is an integrated circuit. Therefore, when the referred claim does not involve novelty, the dependent Claim 7 does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and also does not possess novelty.

7. The dependent Claim 8 is not supported by the description.

The additional technical features of the dependent Claim 8 are not disclosed by or directly inferred from the description and so are not supported by the description, which does not comply with the provisions of Article 26, paragraph four of the Chinese Patent Law.

8. The dependent Claim 10 does not possess novelty.

Reference 1 discloses the following technical features (See the description of Reference 1, Column 3, Lines 1-31): the control circuit further comprising a microcomputer MC1 (corresponding to a decision circuit in the claim). Therefore, when the referred claim does not involve novelty, the dependent Claim 10 does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and also does not possess novelty.

9. The dependent Claim 11 does not possess inventiveness.

Reference 1 discloses that the apparatus comprises a switch circuit. Considering that the switch circuit belongs to an integrated circuit, it is easy for those of ordinary skill in the art to have the idea that said integrated circuit includes transistors. Therefore, when the referred claim does not involve novelty, the dependent Claim 11 does not comply with the provisions of Article 22, paragraph three of the Chinese

Patent Law and does not possess inventiveness.

10. The dependent Claim 14 does not possess novelty.

Reference 1 discloses the following technical features (See the description of Reference 1, Column 2, Lines 21-23): the control circuit further comprises a pulse generator OSCI for generating the field generation signal. Therefore, when the referred claim does not involve novelty, the dependent Claim 14 does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and also does not possess novelty.

11. The dependent Claim 15 does not possess novelty.

It can be derived from Reference 1, Fig. 1 that the control panel is dimensioned such that said control panel may be overlaid by a human appendage. Therefore, when the referred claim does not involve novelty, the dependent Claim 15 does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and also does not possess novelty.

12. The dependent Claims 16, 17, 18, 19, 20 and 21 are not clear.

The additional technical features of the dependent Claims 16-21 all define the different states of the control signal on an output line in different circumstances. However, from these definitions, those of ordinary skill in the art cannot know how to realize that the control signal on an output line changes as different circumstances occur, and therefore the technical solutions of the apparatus sought for protection are not clear, which does not comply with the provisions of Rule 20, paragraph one of the Implementing Regulations of the Chinese Patent Law.

13. The dependent Claim 27 does not possess novelty.

Reference 1 discloses the following technical features (See the description of Reference 1, Column 2, Lines 22-27): the input signal is an alternating current signal. Therefore, when the referred claim does not involve novelty, the dependent Claim 27 does not comply with the provisions of Article 22, paragraph two of the Chinese Patent Law and also does not possess novelty.

14. The independent Claims 28, 29 and 30 do not possess unity.

The reasons why the independent Claim 1 is not allowable have been given above. When Claim 1 is not allowable, the independent Claims 28, 29 and 30 no longer belong to a single general inventive concept and they are not technically interrelated and have no the same or corresponding special technical features. Thus these claims do not possess unity, which cannot be allowed in accordance with the provisions of Article 31, paragraph one of the Chinese Patent Law.

15. The technical solutions recorded in the Summary of Invention are not consistent with those of independent claims, which does not comply with the provisions of Rule 18, paragraph one of the Implementing Regulations of the Chinese

**Patent Law.**

Please note that the new independent claims to be submitted when responding to this office action should be divided into a preamble portion and a characterizing portion with reference to Reference 1 as the closest prior art. Meanwhile, when amending the claims, corresponding amendment should be made for relative parts of the description.

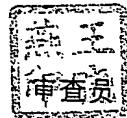
# 中华人民共和国国家知识产权局

邮政编码：

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-6 室

永新专利商标代理有限公司

韩宏



申请号： 00803985.2 | 部门及通知书类型： A-D | 发文日期：

申请人： 触觉传感器技术公司

发明名称： 具有集成控制电路的触摸开关

## 第一次审查意见通知书 (进入国家阶段的 PCT 申请)

- 依申请人提出的实质请求，根据专利法第 35 条第 1 款的规定，审查员对上述发明专利申请进行实质审查。
- 根据专利法第 35 条第 2 款的规定，国家知识产权局决定自行对上述发明专利申请进行审查。
- 申请人要求以其在：

US 专利局的申请日 1999 年 1 月 19 日 为优先权日，

\_\_\_\_\_ 专利局的申请日 \_\_\_\_\_ 为优先权日，

\_\_\_\_\_ 专利局的申请日 \_\_\_\_\_ 为优先权日，

- 申请人提交的下列修改文件不符合专利法第 33 条的规定，因而不能接受：

国际初步审查报告附件的中文译文。

依据专利合作条约第 19 条规定所提交的修改文件的中文译文。

依据专利合作条约第 28 条或 41 条规定所提交的修改文件。

依据专利法实施细则第 51 条规定所提交的修改文件。

修改不能被接受的具体理由见通知书正文部分。

- 审查是针对原始提交的国际申请的中文译文进行的。
- 审查是针对下述申请文件进行的：

说明书 第 \_\_\_\_\_ 页，按照原始提交的国际申请文件的中文译文；

第 \_\_\_\_\_ 页，按照国际初步审查报告附件的中文译文；

第 \_\_\_\_\_ 页，按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件；

第 \_\_\_\_\_ 页，按照依据专利法实施细则第 51 条规定所提交的修改文件。

权利要求 第 \_\_\_\_\_ 项，按照原始提交的国际申请文件的中文译文；

第 \_\_\_\_\_ 项，按照依据专利合作条约第 19 条规定所提交的修改文件的中文译文。

第 \_\_\_\_\_ 项，按照国际初步审查报告附件的中文译文；

第 \_\_\_\_\_ 项，按照依据专利合作条约第 28 条或 41 条所提交的修改文件；

第 \_\_\_\_\_ 项，按照依据专利法实施细则第 51 条规定所提交的修改文件。

附图 第 \_\_\_\_\_ 页，按照原始提出的国际申请文件的中文译文；

第 \_\_\_\_\_ 页，按照国际初步审查报告附件的中文译文；

第 \_\_\_\_\_ 页，按照依据专利合作条约第 28 条或 41 条所提交的修改文件；

第 \_\_\_\_\_ 页，按照依据专利法实施细则第 51 条规定所提交的修改文件。

5.  本通知书引用下述对比文献(其编号在今后的审查过程中继续沿用):

编号	文件号或名称	公开日期 (或抵触申请的申请日)
1	US5012124A	1991 年 4 月 30 日
2	_____	年 月 日
3	_____	年 月 日
4	_____	年 月 日

6. 审查的结论性意见:

关于说明书:

申请的内容属于专利法第 5 条规定的不授予专利权的范围。  
 说明书不符合专利法第 26 条第 3 款的规定。  
 说明书的撰写不符合专利法实施细则第 18 条的规定。

关于权利要求书:

权利要求 1, 2, 3, 5, 7, 10, 14, 15, 27 不具备专利法第 22 条第 2 款规定的新颖性。  
 权利要求 11 不具备专利法第 22 条第 3 款规定的创造性。  
 权利要求 \_\_\_\_\_ 不具备专利法第 22 条第 4 款规定的实用性。  
 权利要求 6, 8 不符合专利法第 26 条第 4 款的规定。  
 权利要求 1, 28, 29, 30 不符合专利法第 31 条第 1 款的规定。  
 权利要求 \_\_\_\_\_ 不符合专利法实施细则第 13 条第 1 款的规定。  
 权利要求 \_\_\_\_\_ 不符合专利法第 9 条的规定。  
 权利要求 16-21 不符合专利法实施细则第 20 条至第 23 条的规定。

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见, 审查员认为:

申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。  
 申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。  
 专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其申请将被驳回。

8. 申请人应注意下述事项:

- (1) 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的 肆 个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。
- (2) 申请人对其申请的修改应符合专利法第 33 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。
- (3) 申请人的意见陈述书和/或修改文本应邮寄或递交给中国专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。
- (4) 未经预约, 申请人和/或代理人不得前来中国专利局与审查员举行会晤。

9. 本通知书正文部分共有 3 页, 并附有下述附件:

引用的对比文件的复印件共 1 份 4 页。

## 第一次审查意见通知书正文

申请号：00803985.2

如说明书所述，本申请涉及一种具有集成控制电路的触摸开关。经审查，现提出如下审查意见。

### 1. 独立权利要求不具备新颖性

对比文件 1 (US5012124A) 公开了一种控制板，具体公开了以下技术特征（见对比文件 1 说明书第一栏 50 行—第二栏第三栏 31 行）：包含有多个传感器的控制板（相当于权利要求中的触摸垫）；靠近控制板的控制电路：包含 OSCI, AMI, ADCI 以及 MCI；控制电路电气连接到控制板上；控制板被配置成接收场发生信号；场发生信号导致围绕控制板产生一个电场；控制电路响应能影响电场的刺激；控制电路被配置成响应能影响所述电场的刺激而有选择地产生一个控制信号；控制电路具有用于将输出线上的控制信号传送给远程设备的输出节点 FI—FN。虽然在对比文件 1 中没有指出控制电路具有用于从远程信号源接收输入信号的输入节点，但本领域普通技术人员知道在该控制电路上必定有接收输入信号（电源信号）的输入节点，否则控制电路无法工作。可见，对比文件 1 公开了权利要求 1 的全部技术特征，且两者属于同一技术领域，均采用了相同的技术方案来解决同样的技术问题，且取得了相同的技术效果，因此权利要求 1 不符合专利法第二十二条第二款的规定，不具备新颖性。

### 2. 从属权利要求 2 不具备新颖性

对比文件 1 公开了如下技术特征（见对比文件 1 说明书第一栏 50 行—62 行）：控制板包括多个传感器，传感器 S1 具有金属板 TP1（相当于权利要求中的电极），因此在引用的权利要求不具备新颖性的情况下，从属权利要求 2 也不符合专利法第二十二条第二款的规定，不具备新颖性。

### 3. 从属权利要求 3 不具备新颖性

对比文件 1 公开了如下技术特征（见对比文件 1 附图 1）：控制板包括多个传感器，传感器 S1 具有金属板 TP1（相当于权利要求中的第一电极），传感器 S2 具有金属板 TP2（相当于权利要求中的第二电极），因此在引用的权利要求不具备新颖性的情况下，从属权利要求 3 也不符合专利法第二十二条第二款的规定，不具备新颖性。

4. 从属权利要求 5 不具备新颖性

对比文件 1 公开了如下技术特征（见对比文件 1 附图 1）：包括电气连接在控制电路与 TP1 之间的第一电阻 R1，以及电气地连接在控制电路与第二电极之间的第二电阻 R2，因此在引用的权利要求不具备新颖性的情况下，从属权利要求 5 也不符合专利法第二十二条第二款对新颖性的规定。

5. 从属权利要求 6 得不到说明书的支持

从属权利要求 6 的附加技术特征在说明书中并未记载，而且从说明书中也不能直接推出该内容，因此得不到说明书的支持，不符合专利法第二十六条第四款的规定。

6. 从属权利要求 7 不具备新颖性

对比文件 1 公开了如下技术特征（见对比文件 1 说明书第二栏 62 行—65 行）：控制电路是集成电路。因此，在引用的权利要求不具备新颖性的情况下，从属权利要求 7 也不符合专利法第二十二条第二款的规定，不具备新颖性。

7. 从属权利要求 8 得不到说明书的支持

从属权利要求 8 的附加技术特征并未在说明书中记载，而且从说明书中也不能直接推出该内容，因此得不到说明书的支持，不符合专利法第二十六条第四款的规定。

8. 从属权利要求 10 不具备新颖性

对比文件 1 公开了如下技术特征（见对比文件 1 说明书第三栏 1 行—31 行）：控制电路还包括微机 MC1（相当于权利要求中的决策电路）。因此，在引用的权利要求不具备新颖性的情况下，从属权利要求 10 也不符合专利法第二十二条第二款的规定，不具备新颖性。

9 从属权利要求 11 不具备创造性

在对比文件 1 指出了设备具有开关电路，且该开关电路是一种集成电路的技术启示，本领域普通技术人员不难想到该集成电路中包括有晶体管，因此在引用的权利要求不具备新颖性的情况下，从属权利要求 11 也不符合专利法第二十二条第三款对创造性的规定，不具备创造性。

10. 权利要求 14 不具备新颖性

对比文件 1 公开了如下技术特征（见对比文件 1 说明书第二栏 21 行—23

行)：控制电路还包括用于产生场发生信号的脉冲发生器 OSC1，因此在引用的权利要求不具备新颖性的情况下，从属权利要求 14 也不符合专利法第二十二条第二款的规定，不具备新颖性。

11. 从属权利要求 15 不具备新颖性

从对比文件 1 附图 1 中可以看出：控制板的尺寸定义为控制板可以被人的附肢覆盖。因此在引用的权利要求不具备新颖性的情况下，从属权利要求 15 也不符合专利法第二十二条第二款的规定，不具备新颖性。

12. 从属权利要求 16, 17, 18, 19, 20, 21 不清楚

从属权利要求 16—21 的附加技术特征均描述的是在不同情况下的输出线上的控制信号的不同状态，但是从这些描述中，本领域普通技术人员并不能清楚地知道如何实现使输出线上的控制信号根据不同的情况发生不同变化，因此不能清楚得得到权利要求请求保护的设备，不符合专利法实施细则第二十条第一款的规定。

13. 从属权利要求 27 不具备新颖性

对比文件 1 公开了如下特征(见对比文件 1 说明书第二栏 22 行—27 行)：输入信号是交流信号。因此在引用的权利要求不具备新颖性的情况下，从属权利要求 27 也不符合专利法第二十二条第二款的规定，不具备新颖性。

14. 独立权利要求 28, 29, 30 不具备单一性

上面已经论述了独立权利要求 1 不能成立的理由。当权利要求 1 不能成立时，独立权利要求 28, 29, 30 不再属于一个总的发明构思，技术上无相互关联，没有相同或者相应的特定技术特征，不具备单一性，因此不符合专利法第三十一条第一款的规定。

15. 本申请说明书发明内容部分记载的技术方案与独立权利要求记载的技术方案不一致，不符合专利法实施细则第十八条第一款的规定。

同时请申请人注意，新提交的独立权利要求应该以对比文件 1 为最接近的现有技术进行化界；同时在修改权利要求书时，应对说明书的相应部分作适应性修改。